

# Web Service Sample: AddressBook from WSDL

## Table of contents

1 Introduction.....	2
2 Running the Sample.....	2
2.1 Requirements for Running the Sample.....	2
2.2 To Set up the Environment.....	2
2.3 To Set up the Server.....	2

## **1. Introduction**

This sample shows how to generate a web service from a WSDL file.

## **2. Running the Sample**

### **2.1. Requirements for Running the Sample**

To run the Samples, you need:

- Beehive
- Tomcat 5
- J2SE 5
- Ant 1.6.2

### **2.2. To Set up the Environment**

Before proceeding, complete all of the necessary and optional steps in the following topic:  
[Beehive Installation and Setup](#) (./setup.html)

Open a command shell and confirm that the following variables have been set:

- ANT\_HOME
- CATALINA\_HOME
- JAVA\_HOME

Also ensure that the following elements are on your PATH:

- ANT\_HOME/bin
- JAVA\_HOME/bin

### **2.3. To Set up the Server**

#### **2.3.1. To Copy the Application to a Project Folder (Optional Step)**

To keep your Beehive distribution directory pristine, you should copy the application folder to another location before proceeding. The following instructions assume that you have copied the folder

```
<BeehiveRoot>/samples/wsm-addressbook-fromWSDL
```

into the directory C:\beehive\_projects, resulting in the following directory structure.

```
C:\
  beehive_projects
    wsm-addressbook-fromWSDL
```

## Web Service Sample: AddressBook from WSDL

### Note:

<BeehiveRoot> refers to the top-level directory of your Beehive installation. A typical value for <BeehiveRoot> would be C:/apache/apache-beehive-1.0.

### Note:

Strictly speaking, you do not need to copy the wsm-addressbook-fromWSDL directory to another location. If you wish to leave the wsm-addressbook-fromWSDL directory in place, in the instructions below you must replace occurrences of the path element C:\beehive\_projects with this path element: <BeehiveRoot>\samples.

For example, to build a generated web service file, run the following Ant command:

```
ant -f <BeehiveRoot>\samples\wsm-addressbook-fromWSDL\src\WEB-INF\build.xml clean build war
```

To delete the sample's build directory, run the clean target:

```
ant -f <BeehiveRoot>\samples\wsm-addressbook-fromWSDL\src\WEB-INF\build.xml clean
```

### 2.3.2. To Start Tomcat

To start Tomcat, run the following command:

```
%CATALINA_HOME%\bin\startup.bat
```

### 2.3.3. Edit the build.properties File

In this section you will edit the build.properties file--the file that sets the build-related properties for the application.

Open the file

C:/beehive\_projects/wsm-addressbook-fromWSDL/WEB-INF/src/build.properties  
in a text editor.

Edit the files so that the beehive.home property points to the top-level folder of your beehive installation. For example, if your beehive installation resides at

C:/apache/apache-beehive-1.0, then your build.properties files would appear as follows.

```
beehive.home=C:/apache/apache-beehive-1.0
```

### 2.3.4. Select a Source WSDL

Select a source WSDL from which to generate a web service. The generated web service will contain method signatures that correspond to the request/response pattern outlined in the WSDL. For example, if the WSDL contains an operation named "fooOperation" that takes an integer request and responds with a string, then the following method will be generated:

```
String fooOperation(int n)
{
}
```

Place the selected WSDL in the following directory.

```
wsm-addressbook-fromWSDL\WEB-INF\wsdl/
```

The directory already contains a sample WSDL for the AddressBook web service.

### 2.3.5. Generating a Web Service

To generate a web service from the WSDL file, run the following Ant target:

```
ant
-f C:\beehive_projects\wsm-addressbook-fromWSDL\WEB-INF\src\build.xml
source-gen
```

**Copy and paste version:**

```
ant -f C:\beehive_projects\wsm-addressbook-fromWSDL\WEB-INF\src\build.xml
source-gen
```

Two artifacts are generated: (1) a web service file is written to WEB-INF/src-ws and (2) the related Java types are written to WEB-INF/gen/types. (Note that the types are also compiled directly into the WEB-INF/classes directory.)

The generated methods are all empty, so you must add code to implement the remainder of the web service.

**Note:**

The source-gen target will overwrite previous build artifacts. Beware that you do not lose work by running this target more than once.

**Note:**

This process only works for document-style web services. For RPC-encoded web services, you must use Axis type generation.

### 2.3.6. Compiling the Generated Web Service

To compile the generated web service, enter the following Ant command.

```
ant
-f C:\beehive_projects\wsm-addressbook-fromWSDL\WEB-INF\src\build.xml
clean
build
war
```

**Copy and paste version:**

```
ant -f C:\beehive_projects\wsm-addressbook-fromWSDL\WEB-INF\src\build.xml
clean build war
```

The command above creates a WAR file named `fromWSDLWS.war` and saves it at `C:\beehive_projects`.

## *Web Service Sample: AddressBook from WSDL*

To deploy the app to Tomcat, run the following command:

```
copy C:\beehive_projects\fromWSDLWS.war %CATALINA_HOME%\webapps /Y
```

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